

What is claimed is:

1. A laser cutting apparatus for disassembling containers having interfacing thermoplastic joining surfaces comprising:

a laser adapted to project a laser beam capable of cutting through thermoplastic materials along a predetermined light path operationally connected with a computer processor;

said light path is moveably adjustable and operationally connected with said computer processor;

a gimbal adapted to removably retain a container to be disassembled;

said gimbal adapted to rotate with respect to at least one axis of rotation;

said gimbal operationally connected with said computer processor; and

a computer program executable in said computer processor adapted to command said laser, said moveably adjustable light path and said gimbal to cause said laser beam to trace a predetermined path on the surface of said container to cut through said thermoplastic joining surfaces to separate said joining surfaces along said predetermined path.

2. The apparatus for disassembling containers having thermoplastic joining surfaces of claim 1 wherein:

said gimbal adapted to translate in at least one dimension.

3. The apparatus for disassembling containers having thermoplastic joining surfaces of claim 1 wherein:

said container is a toner cartridge.

4. The apparatus for disassembling containers having thermoplastic joining surfaces of claim 1 wherein:

said container is an inkjet cartridge.

5. The apparatus for disassembling containers having thermoplastic joining surfaces of claim 1 wherein:

said thermoplastic is Acrylonitrile Butadiene Styrene.

6. A method for disassembling a container having thermoplastic joining surfaces comprising:

providing a container having sections joined along interfacing thermoplastic joining surfaces;

removably retaining said container in a gimbal having at least one axis of rotation;

providing a laser adapted to produce a laser beam capable of cutting through thermoplastic materials;

providing a moveably adjustable light path;

directing the laser beam from said laser to said container along said moveably adjustable light path;

providing a computer processor operationally connected with said gimbal, said laser and said moveably adjustable light path;

controlling operation of said laser, said gimbal and said moveably adjustable light path by said computer processor in response to a computer program;

causing said laser beam to trace a path along the interface between said joining surfaces by moving the moveably adjustable light path and the gimbal in response to said computer program;

cutting through the thermoplastic along said interface with said laser beam;

removing said container from said gimbal; and

separating said container sections along the cut interface between joining surfaces.

7. A disassembled container suitable to be remanufactured or reassembled comprising:

a container having sections with thermoplastic joining surfaces adapted to be sealingly joined along an interface between said joining surfaces;

elements required for proper function of said container when assembled integrated into said container positioned adjacent said interface between joining surfaces;

said interface cut through with a laser beam;
operational functional elements; and
separated container sections.

8. The disassembled container of claim 7 wherein:
said interface between joining surfaces has a circuitous configuration.

9. The disassembled container of claim 7 wherein:
said container may be reassembled along said interface between joining surfaces.

10. The disassembled container of claim 7 wherein:
said joining surfaces are composed of Acrylonitrile Butadiene Styrene.

11. The disassembled container of claim 7 wherein:
said joining surfaces are composed of a thermoplastic material having a melting temperature in the same melting temperature range as Acrylonitrile Butadiene Styrene polymers.

12. The disassembled container of claim 7 wherein:
said container is a toner cartridge.

13. The disassembled container of claim 7 wherein:
said container is an inkjet cartridge.

14. The disassembled container resulting from the method of claim 6.